

**Claims:**

1. A method for producing a bridged polymer membrane, comprising the steps of:  
5 obtaining a liquid medium comprising a basic polymer having an amino group in a repeating unit, a bridging agent, and a solvent;  
shaping the liquid medium into a membrane configuration to obtain a shaped membrane; and  
bridging the basic polymer by the bridging agent in the shaped membrane.

10

2. A method of claim 1 wherein the bridging agent has at least two epoxy groups or isocyanate groups in the molecule thereof.

15

3. A method of claim 1 or 2 wherein the liquid medium contains 0.001 to 0.8 mole of the bridging agent per unit of the basic polymer.

20

4. A method of claim 1, 2 or 3 wherein the basic polymer is selected from the group consisting of polybenzimidazoles, polyimidazoles, polyvinylimidazoles, and polybenzobisimidazoles.

5. A method of claim 1 further comprising the step of impregnating the basic polymer with a strong acid for providing proton conductivity.

25

6. A method of claim 1 wherein the basic polymer has a strong acid group in the repeating unit in the basic polymer.

7. A fuel cell comprising a plurality of single cells, each of the single cells comprising a bridged polymer membrane obtained by a method of claim 5 or 6 and a pair of electrodes sandwiching the bridged polymer membrane.